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CERTIFICATION OF ATTACHED ENGLISH TRANSLATION OF PCT APPLICATION:

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I hereby certify the English translation attached is a true and accurate copy of the referenced PCT/EP2004/053218 application.

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Egg Tray

DESCRIPTION

[001] The present invention relates to an egg tray for use in a refrigerator, especially for insertion in a door compartment of a refrigerator.

[002] Egg trays of this type are conventionally injection mouldings made of plastic comprising a support plate in which a plurality of receptacles is formed for respectively one egg. These receptacles usually have the form of shells which surround an egg at its lower end. The lower end is thereby isolated and less well cooled than the upper area of the egg which projects out from the shell.

[003] Egg trays are known wherein a reinforcing vertical circumferential web is moulded on the circumference of a flat support plate in which shells are recessed. Egg trays of this type can be stacked in a refrigerator to save space, where the lower edge of the web of one egg tray rests on the top of the plate of another and the shells of the two intermesh. The intermeshing shells form a double-walled insulation for the lower area of an egg accommodated in the upper egg tray so that the stacking further restricts the quality of the cooling.

[004] The width of the egg tray is usually matched to the depth of a door compartment for which it is provided. Thus, an egg tray laden with eggs can generally only be removed from the refrigerator by gripping it on one narrow side or, if this is at all accessible, on both narrow sides. This makes the handling of the conventional egg tray difficult since if it can only be grasped on one narrow side, the eggs mounted therein exert a large torque so that a user must grip tightly so that the raised egg tray does not tilt and the eggs fall to the ground. Handling with both hands is only possible if the egg tray is not located at one longitudinal end of the door compartment or can be moved so far away therefrom before removal that there is room for a second hand between the longitudinal end and the egg tray. However, this assumes that there is sufficient room in the door compartment for displacing the egg tray, which is not always the case.

[005] Therefore, most users leave the egg tray in the refrigerator even if they wish to remove and use a plurality of eggs and then place these loosely and unsecured on a worktop or pack them into a container which must be cleaned after use, which causes additional work.

[006] A first object of the present invention is to provide an egg tray for a refrigerator which also allows effective cooling of the lower area of each egg mounted therein.

[007] This object is solved by replacing the conventional egg-receiving shells by simple openings in the support plate. In order to allow free access of cold air to the lower ends, the lateral walls surrounding the support plate and supporting said plate are divided into a plurality of wall sections which are each separated from one another by recesses.

[008] These wall sections are preferably each constructed to that they project over the circumference of the support plate and specifically so that a section of the circumference of the support plate on which an upright wall section is arranged so that it projects over the circumference is located diametrically opposite to a section of the circumference on which a recess is located. It is thereby possible to stack two identical egg trays according to the invention having the same wall height in a configuration twisted by 180° with respect to one another, where respectively one wall section of one egg tray engages in a gap between two wall sections of the other egg tray. Thus, an extremely stable and space-saving stacking is achieved.

[009] The wall sections of one egg tray engage in the recesses of the respectively other egg tray. A reduction in the free cross-section associated therewith can be kept small if two egg trays having wall sections of different height are used and that having the low wall sections is stacked on that having the high wall sections. Alternatively, spacers can be provided in the underside of the support plates of the egg trays, which prevent the support plates of stacked egg trays from coming too close together.

[010] A second object of the present invention is to provide an egg tray for a refrigerator which can be conveniently and securely removed from the refrigerator and handled when it is laden with eggs.

[011] This object is solved by a handle protruding from the egg tray according to the invention above its centre of gravity. If a user grips the egg tray by this handle, he then only needs to compensate for a torque if the eggs are non-uniformly distributed in the egg tray. If the egg tray is uniformly laden, especially if the distribution of the receptacles is symmetrical with respect to the handle, the user does not need to compensate for any torque in order to keep the support plate horizontally oriented when lifting the egg tray so that the eggs remain securely held therein.

[012] In addition to the handle, a slit is preferably formed in the support tray through which a handle of a second, preferably identical, egg tray can be passed. It is thereby possible to stack the egg trays if one of them is not in use so that both can remain in the refrigerator and a user is not forced to search for the second egg tray at some other location when he wishes to use it again.

[013] It is further preferred if the handle has the form of a plate and that one surface of the plate is directly adjacent to the slit. If two egg trays according to the invention are stacked, the surface comes to rest on a corresponding surface of the handle of the other egg tray so that a user can conveniently grasp both handles as a unit and can thus remove both egg trays in stacked form.

[014] In order that the handle can be held comfortably and securely, it is preferably if the plate is thicker in its upper region.

[015] Further features and advantages of the invention are obtained from the following description of an exemplary embodiment with reference to the appended figures. In the figures:

[016] Fig. 1 is a perspective view of a single egg tray according to the invention;

[017] Fig. 2 is a perspective view of two egg trays of the type shown in Fig. 1 in a configuration stacked one on the other; and

[018] Fig. 18 shows two stacked egg trays according to a modification of the invention.

[019] The egg tray shown in Fig. 1 is a one-piece injection moulding made of plastic having a flat, rounded rectangular support plate 1 in which an even number of receptacles, in this case in the form of openings 2, is formed to receive eggs.

[020] A handle in the form of a rectangular plate 3 protrudes from an central region of the support plate 1 above the centre of gravity of the egg tray. The plate 3 has a flat side surface 4 directly adjacent to which is slit-shaped opening 5 having the width of the plate 3 or a slightly larger width. A bead 6 which facilitates gripping of the plate 3 with the fingers is formed on a side of the plate 3 facing away from the side surface 4 in its upper area.

[021] Five vertical wall sections 7 are distributed over the circumference 8 of the support plate 1. These each project over the circumference 8, their profile in the height of the wall sections 4 being indicated as a dashed line. The wall sections 7 are each arranged diametrically opposite a section of the circumference 8 on which no wall section is formed. These recesses or gaps 11 are each slightly wider than the diametrically opposite wall section 7.

[022] Figure 2 shows two egg trays of the type shown in Fig. 1 stacked one on top on the other. The plate 3 of the lower egg tray 10 which is turned through 180° relative to the upper tray, passes through the slit 5 of the upper egg tray 9. The openings 2 for receiving the eggs are congruent at the two egg trays 9 and 10 so that the usability of the upper egg tray 9 is not impaired by the stacking.

[023] The wall sections 7 of the lower egg tray 10 each engage with a small amount of lateral play in the gaps 11 between the wall sections 7 of the upper egg tray 9. The support plate 1 of the upper egg tray 9 rests on that of the lower tray 19 and the wall sections 7 of the lower egg tray 10 stand on a base not shown whilst the wall sections of the upper egg tray 9 are spaced apart from the base as a result of the thickness of the support plate 1. The intermeshing of the wall sections 7 and the plate 3 eliminates any slippage of the egg trays 9, 10 towards one another. Gaps remain between the lower edges of the wall sections 7 of the upper egg tray 9

and a flat standing surface (not shown), allowing exchange of cold air between the space underneath the support plates and the environment. In the simplest case, if the two egg trays 9, 10 are identical, the height of these gaps corresponds to the thickness of the support plate 1 of an egg tray. In order to create wider gaps, spacers, e.g. in the form of knobs 12, as shown in Fig. 3, or webs, can be provided on the underside of the support plates 1, preventing direct contact of the support plate 1. Alternatively, the two egg trays can also be non-identical but having different heights of the wall sections 7, where the egg trays having the lower wall sections must be stacked on those having the higher wall sections.

[024] If the egg trays do not need to be identical, the wall sections 7 of one can engage in the recesses 11 of the other if wall sections 7 and recesses 11 are not diametrically opposite on one single egg tray 9 or 10.

[025] A user who wishes to remove the egg trays from a door compartment can conveniently grasp the beads 6 of both plates 3, press the plates 3 towards one another and thus remove the two egg trays 9, 10 together in the stacked configuration. The handling of the stack comprising egg trays 9 and 10 is thus just as simple and convenient as the handling of a single egg tray.

[026] The requirement that in the case of identical egg trays 9, 10, wall sections 7 and gaps between the wall sections should be diametrically opposite on one egg tray 9 or 10 makes it necessary to have an odd number of wall sections 7. In order to ensure good stability of the egg tray, preferably five wall sections 7 are provided as in the present example.

[027] As a result of a modification of the invention not shown in the figure, the openings 2 for receiving the eggs are each replaced by shells; in this case, two stacked egg trays are located on one another, on the one hand by the plate 3 of the lower egg tray which passes through the slit 5 in the upper egg tray and on the other hand, by the intermeshing of their receiving shells. In this modification, the wall sections 7 are not absolutely essential since the undersides of the shells can serve as a standing surface for the egg tray.